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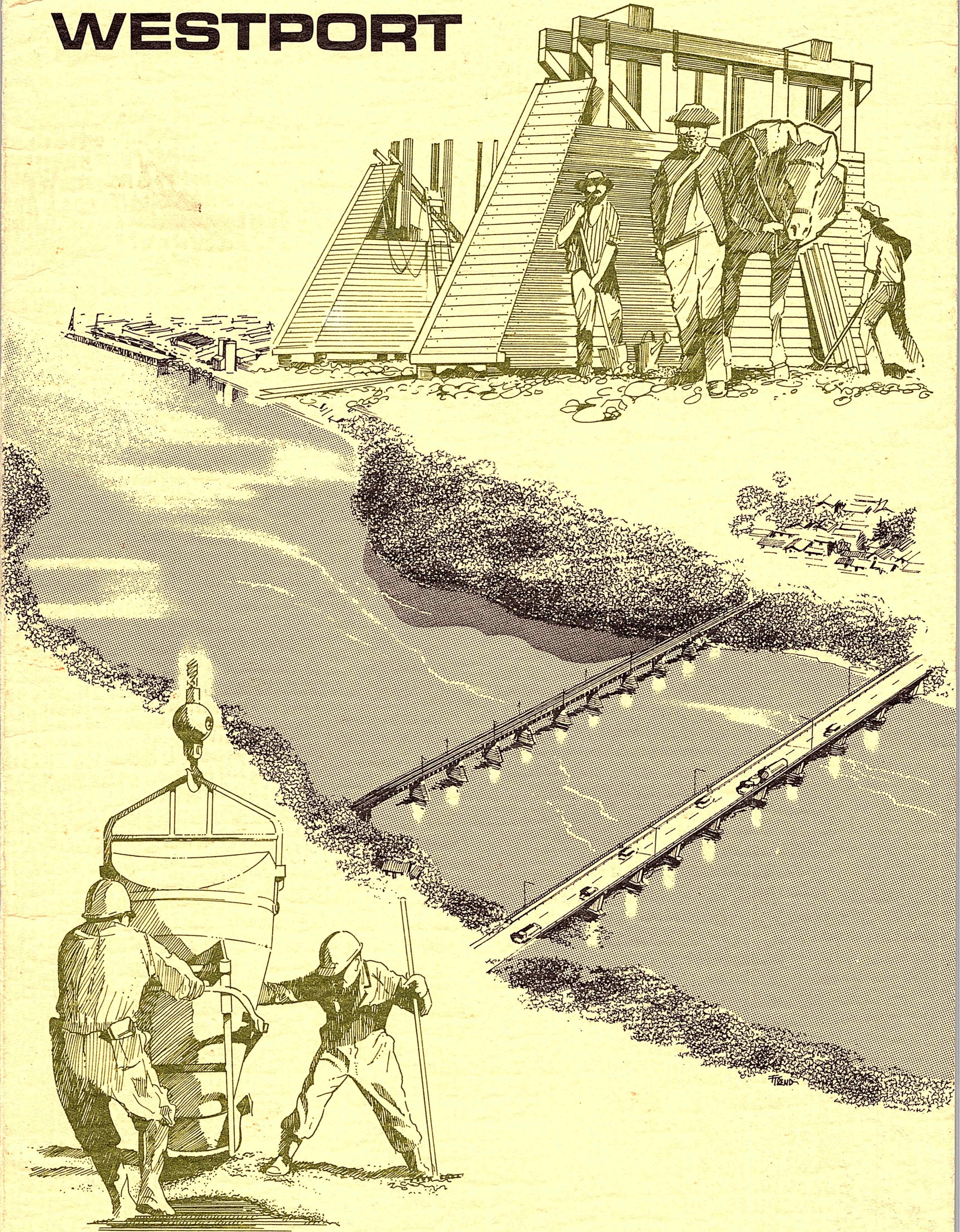
BULLER RIVER BRIDGE

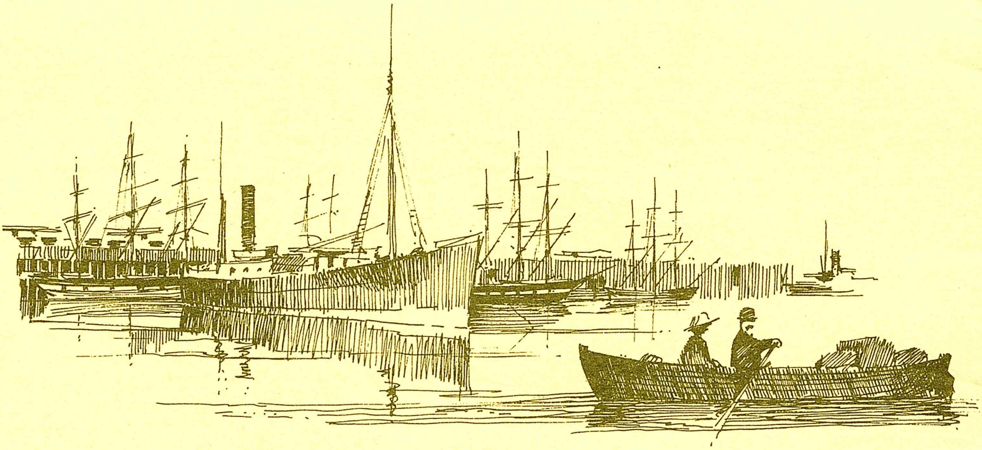
WESTPORT



Officially opened 11 Dec 1976

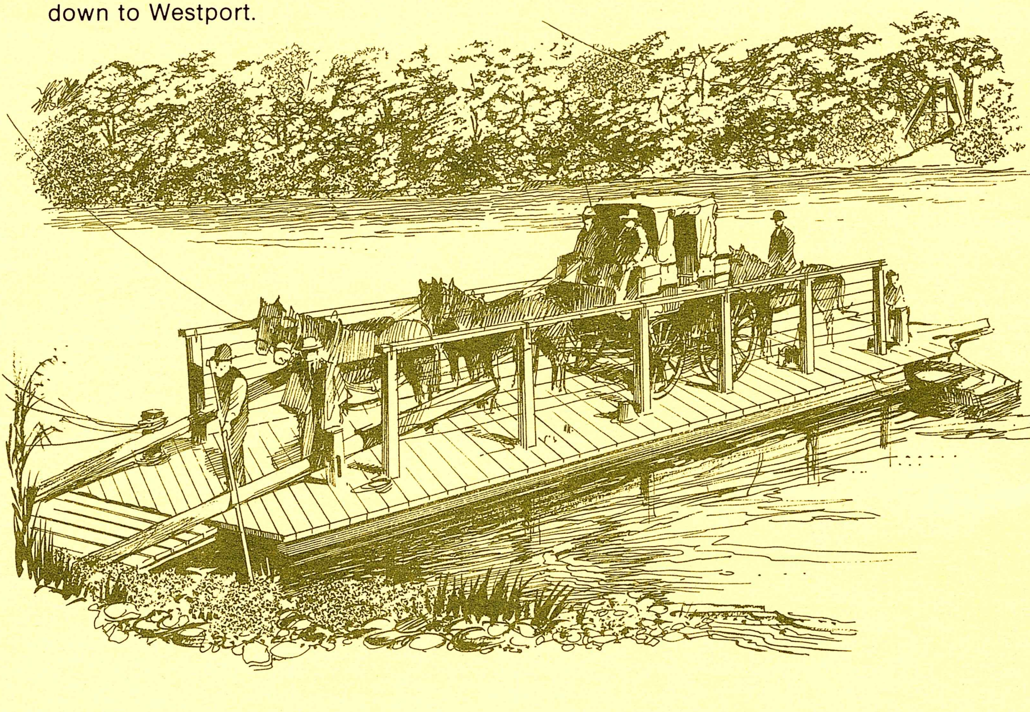
Ministry of Works
and Development

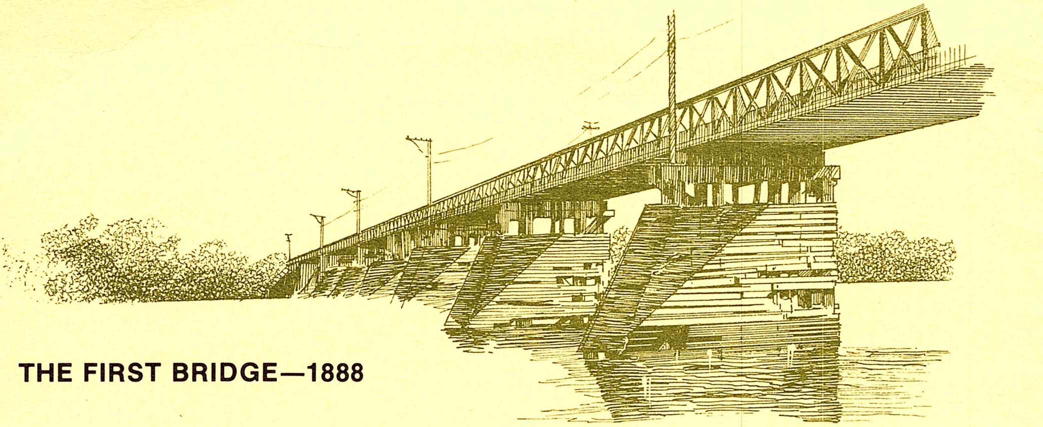
EARLY DAYS—1860



A cluster of tents and shanties soon grew up on the eastern bank of the Buller River after gold had been discovered in the area. Thus the sea port of Westport was born with a population of about 200 people. Only six years later, after the discovery of gold on the west bank, in the pakihi lands, the population had grown to 1,500 and Charleston 1,800. Access across the river over this period between these two settlements was by means of ferries across the mouth of the river. Passengers were conveyed for a shilling per head! Over the next ten years the rapidly developing Westport was to experience severe earth tremors, tidal waves and raging floods and it says a lot for the courage and vision of these settlers that they stayed on and endured. Legend has it that during one of these floods a hotel floated out over the river bar and disappeared into the Tasman with "its lights still glowing!" Were they singing "Atide With Me"?

Communications by land from Greymouth, Reefton and Inangahua via the Buller Gorge were becoming established at the turn of the century and another ferry service at the mouth of the gorge at Te Kuha, about five miles up river from Westport, was set up to transfer travellers, coaches, livestock and other goods to the east side and thence on down to Westport.





THE FIRST BRIDGE—1888

Westport was declared a borough on 22 June 1873, the same day that Julius Kelpe brought in the first two sacks of "black gold" on his horse from a deposit he'd found in the Denniston area, so almost overnight the Buller became one of New Zealand's most important and wealthiest areas. The newly constituted Harbour Board quickly realised that with the uncertainties and dangers of crossing the bar the port would have to be radically improved to provide safer access to the rapidly increasing flow of colliers and other shipping. So in order to implement a new harbour design by Sir John Goode, the board was obliged to construct a railway bridge over the Buller linking the six miles of railway from the Cape Foulwind quarries to transport rock across to the eastern breakwaters. In 1887 tenders were called for the construction of the bridge. It was completed in the following year by John McLean and Sons for £13,794 or $26 per foot compared with today's cost of almost $1,250 a foot. It consisted of thirteen 80 foot spans (1,040 feet in length) of wrought iron lattice girders, fabricated in England, founded on hardwood piles and piers and mass concrete abutments with stringers of hardwood timber and a 12 foot timber deck (at present in rimu).

Over the succeeding 88 years this bridge has had to withstand earthquakes, tremendous floods from the Buller, the load poundings from the quarry trains and latterly, of course, heavy transport carrying more rock for the breakwaters, coal, cement, logs and the rest. All this has taken its toll and after huge floods in 1926 and 1954 more hardwood piles 65 foot in length had to be driven to prevent any further lateral movement towards the sea.

Other historical features include:

1924 New Zealand Railways took it over from the Harbour Board.

1926 The Buller flood—estimated to be 270,000 cusecs, or, if you prefer, about 1½ million gallons of water pouring into the Tasman every second.

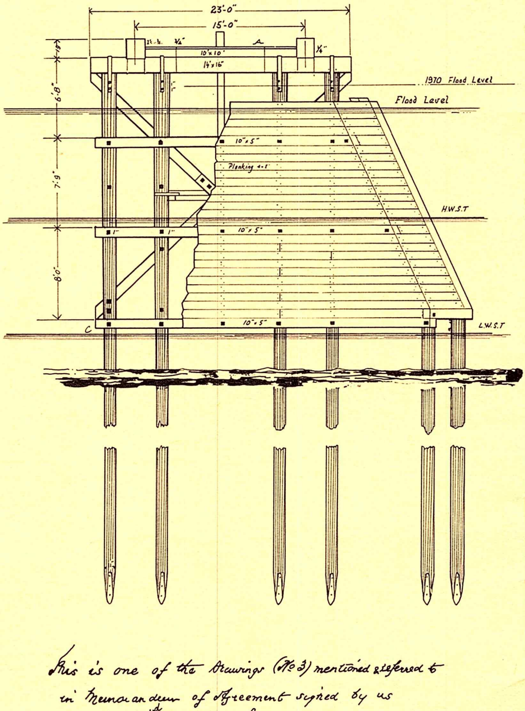
1932 Main Highways Board became the "proud" new owners of this combined road/rail bridge.

1940 It became a road bridge only.

1957 Most of its timber superstructure was replaced.

1975 With the ever increasing traffic densities and consequent frustrating delays on the old one-laner along with the now doubtful structural strength of the old bridge, the National Roads Board agreed to finance the construction of a new one.

-Side elevation-
(planking part removed)

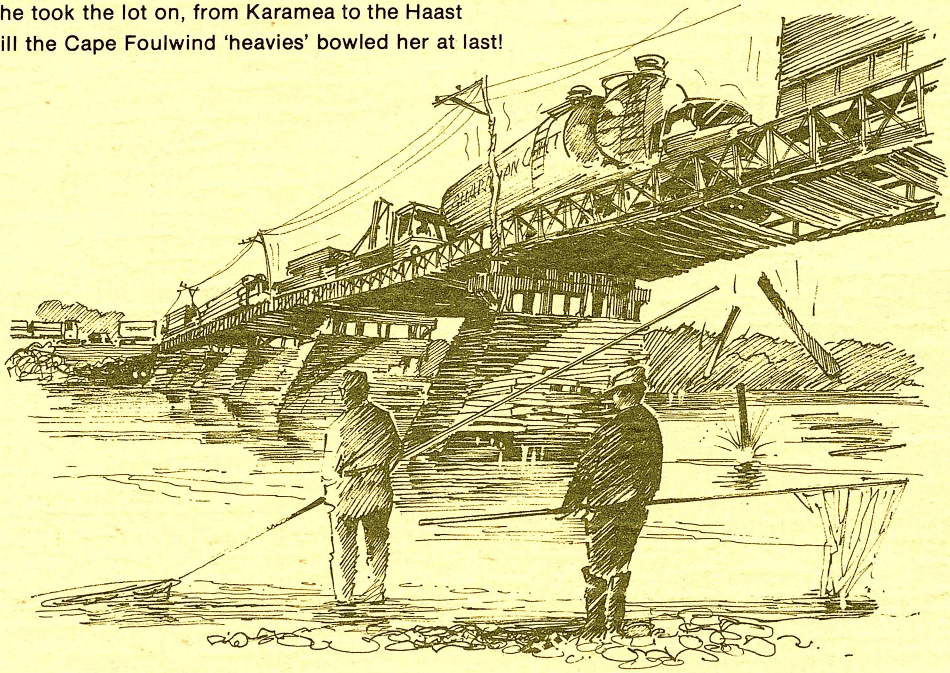


This is one of the Drawings (No 3) mentioned & referred to in Memorandum of Agreement signed by us this Twentieth day of January 1887

John McLean & Son
per Neil McLean

THE OLD B.

The old girl had stood nearly ninety years
On old timber tooth picks and rickety piers.
She'd had a few face lifts—her old deck re-hashed
She'd been shaken and shook—battered and bashed.
A hundred foot log swiped her in one huge flood
And kinked her deck but didn't draw blood.
So she didn't go down like some bridges do.
No fatals for her—just an odd dose of flu.
All heart and alone she spanned the great Buller
No Coast river bigger, angrier or fuller.
She took the lot on, from Karamea to the Haast
Till the Cape Foulwind 'heavies' bowled her at last!

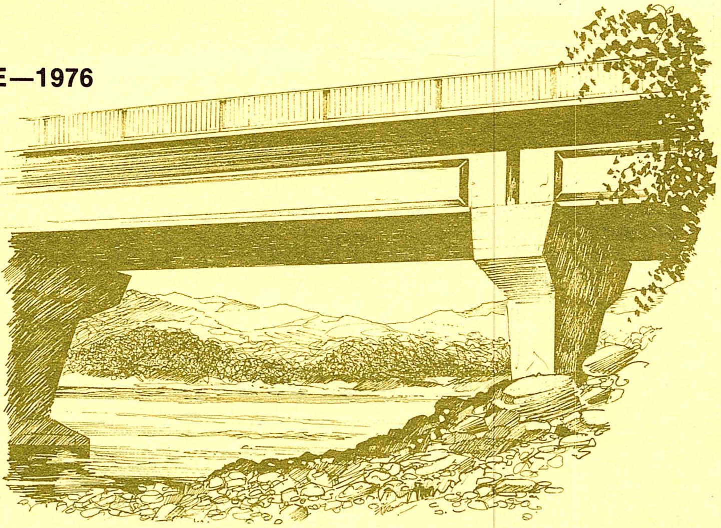


She's had it now, but spare her this thought
Without her, there'd be no such town as Westport
Just think of the millions of bods she has carried
Some sober, some drunk and some even married!
And how many will recall with nostalgia and pride
How they leaned on her rail and fished from her side.
And how many whitebait have slipped neath her decking
On their way up the river to finish their necking!
So remember you Coasters, in decades to come
The old Buller Bridge and the job that she's done!

The new one too is well worthy of mention
With its seismic repellers and built in pre-tension
It'll stand up to earthquakes hour after hour
On its scores of piles planned for sixty foot scour.
It'll take all the floods the old Buller can throw
And will take all the traffic you Coasters can grow!
High, wide and handsome it's ready for battle
And will probably cope without even a rattle.
But so it should—it's cost a lotta!
At a million bucks—it's ruddy well gotta!

M.R.

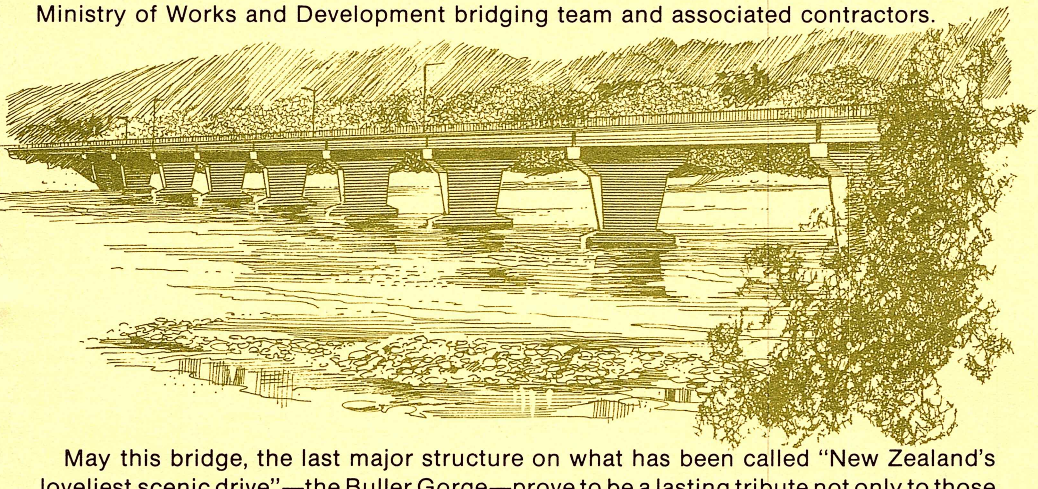
THE NEW BRIDGE—1976



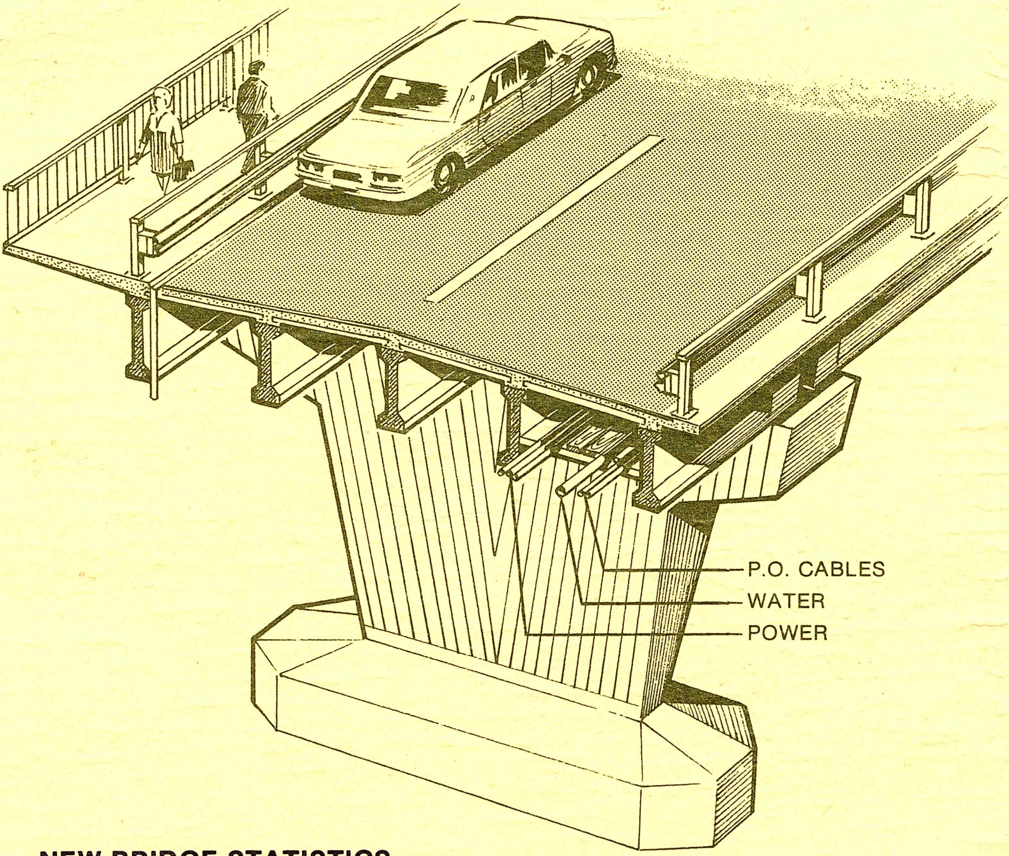
The design consists of 60 prestressed post tensioned I beams for the main girder system, similar to the new Cobden Bridge at Greymouth. The piers and abutments are of reinforced concrete founded on prestressed concrete piles. There are twelve piles at each pier driven at a rake of 1 in 6 and four at each abutment driven vertically. These piles are 19.1 m long and weigh something like eleven tonnes each. The five 25 tonne girders per span were fabricated and supplied by Westcoast Stresscrete in Greymouth. A feature of this girder system is the earthquake linkages with specially designed bolts and rubber ring buffers to withstand major earthquake movement. The deck consists of a layer of precast, prestressed concrete deck units overlaid on site with concrete 90 mm thick. The final deck smoothing surface consists of a 38 mm coat of hotmix asphalt concrete.

Pile driving began in earnest in June 1975. A shingle causeway, a metre or so above high tide level was constructed from the Westport side, about two-thirds of the way across the river. The main stream was confined on the west side to a mere third of its normal width. Huge steel cylinders were then sunk at the pier sites—the water level pumped down and held so that pile driving and pier construction could be "done in the dry". By December, eight piers had been completed even though floods had effected delays and damage to the causeway and cylinders. By the end of March the whole girder system was in place despite another hold up from a major flood—this time at the west side causeway.

Total construction time was about 20 months, a fine achievement by the local Ministry of Works and Development bridging team and associated contractors.



May this bridge, the last major structure on what has been called "New Zealand's loveliest scenic drive"—the Buller Gorge—prove to be a lasting tribute not only to those who have worked on her but also to all those who have helped to build this fine highway to Westport.



NEW BRIDGE STATISTICS

LENGTH:	305 m in 12 spans		
WIDTH:	Two/4.3 m traffic lanes One/2.5 m footway (downstream side)		
GRADIENT:	Level deck throughout		
DECK BEAMS:	60/prestressed concrete weighing 25 tonnes each		
QUANTITIES:	Piles	=	140/prestressed concrete Total length 2,674 m (1.2/3 miles)
	Deck Units	=	768 precast slabs (2 m × 1.5 × .09 m) Weight 0.65 tonnes
	Mild Steel Reinforcement	=	186 tonnes
	Concrete Poured on Site	=	1,700 cubic metres
	Length of Guardrail	=	768 metres
	Length of Handrail	=	328 metres
	Lighting	=	Six/135W 50X lanterns on 10.5 metre fibreglass poles

TOTAL COST OF BRIDGE (including approaches) = $1.4 million
DESIGNED, BUILT AND SUPERVISED BY: Ministry of Works and Development

Opened on Saturday 11 December 1976
by the HON. W. L. YOUNG
Minister of Works and Development
and Chairman of the National Roads Board

Issued by Ministry of Works and Development, P.O. Box 1479, Christchurch